



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/092,920	03/08/2002	Hiroshi Yamashita	220113US0	1469
22850	7590	11/17/2004	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.			DOTE, JANIS L	
1940 DUKE STREET			ART UNIT	
ALEXANDRIA, VA 22314			PAPER NUMBER	
			1756	

DATE MAILED: 11/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/092,920	YAMASHITA ET AL.	
	Examiner	Art Unit	
	Janis L. Dote	1756	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 September 2004.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) 12-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-11 and 29-31 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☒ Claim(s) 1-31 are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>4/9/03; 7/18/03; 10/22/03; 11/24/03; 12/2/03; 12/22/03; 4/1/04; 4/20/04; 4/30/04; 6/14/04; 6/27/04; 6/17/04; 7/8/04; 8/3/04; 9/9/04; 9/21/04</u> | 6) <input type="checkbox"/> Other: <u>122 sheets</u> |

Art Unit: 1756

1. The examiner acknowledges the amendment to claim 8 and the addition of claims 29-31, filed on Aug. 24, 2004. Claims 1-31 are pending.

2. Claims 12-28 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicants timely traversed the restriction (election) requirement in the reply filed on Jan. 9, 2004.

3. The examiner has considered only the material submitted by applicants, i.e., copies of the originally filed claims, abstracts, and figures of the US applications listed in the "List of related cases" in the Information Disclosure Statements (IDS) filed on Apr. 1, 2004, Apr. 20, 2004, Apr. 30, 2004, Jun. 14, 2004, Jun. 17, 2004, Jul. 8, 2004, and Aug. 3, 2004.

The examiner has considered the US applications listed in the "List of related cases" in the IDS filed on Sep. 9, 2004, and Sep. 21, 2004.

The examiner has considered only the material submitted by applicants, i.e., copies of the originally filed claims, abstracts, and figures, which were provided by applicants on Jun. 7, 2004, of the US applications listed in the "List of

related cases" in the IDS Information Disclosure Statements (IDS) filed on Apr. 9, 2003, Jul. 18, 2003, Oct. 22, 2003, Nov. 24, 2003, Dec. 2, 2003, and Dec. 22, 2003.

4. For the reasons discussed in the office action mailed on May 5, 2004, paragraph 2, pages 3-4, applicants were requested by the examiner to specify why each of the over 99 applications and patents that do not appear pertinent to the subject matter recited in the instant claims were cited by applicants in the Information Disclosure Statements.

In the response filed on Aug. 24, 2004, applicants state that they "note the examiner's statement in paragraph 2 of the Office action, but no requirement has been made therein."

However, a request was made for applicants to specify why each of the numerous US applications and patents noted above where cited. See the office action mailed on May 5, 2004, paragraph 2, page 4, lines 20-23. The examiner notes that fifteen additional Information Disclosure Statements, which together list a total of 22 applications, have been entered since the mailing date of the office action mailed on May 5, 2004.

Applicants are again requested to specify why each of the numerous US application and patents that do not appear to be

pertinent to the subject matter recited in the instant application were cited.

5. The objection to the specification set forth in the office action mailed on May 5, 2004, paragraph 5, has been withdrawn in response to the amendment to claim 8 filed on Aug. 24, 2004.

The rejection of claim 3 under the judicially created doctrine of obviousness-type double patenting over claims 1-10 of copending application No. 10/392,894 in view of US 6,326,115 B1 (Nakanishi), set forth in the office action mailed on May 5, 2004, paragraph 18, has been withdrawn in response to applicants' arguments set forth in the response filed on Aug. 24, 2004, page 24, lines 4-7, that the "compositional limitations are insufficient by themselves to meet the other limitations of the claims." The instant specification shows that toners that meet the compositional limitations recited in instant claim 1, namely having a ratio M/T within the range of 10 to 1000, do not necessarily satisfy the relationship recited in instant claim 3. See the instant specification, Table 2 at pages 77-78, examples 1-5 and 8-14. Thus, it is not reasonable to presume that toner compositions recited in reference claims 1 and 3 of Application '894 satisfy the charge quantity recited in instant claim 3.

Art Unit: 1756

6. The disclosure is objected to because of the following informalities:

The use of trademarks, e.g. Hansa yellow [sic: HANSA yellow] at page 33, line 22, has been noted in this application. The trademarks should be capitalized wherever they appear and be accompanied by the generic terminology. This example is not exhaustive. Applicants should review the entire specification for compliance.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Appropriate correction is required.

Applicants' arguments filed on Aug. 24, 2004, have been fully considered but they are not persuasive.

Applicants traverse that the term "Hansa" yellow is not a trademark, but a type of color, and does not signify a source. Applicants have provided a list of fifty patents that applicants assert that the term "Hansa" is not used as a trademark:

However, the term HANSA is a registered US trademark, serial no. 71178563. See the Trademark Electronic Search System (TESS) printout of the trademark HANSA, updated on Nov. 13,

2004, listed on the attached form PTO-892. (Applicants are reminded that the trademark HANSA is disclosed more than once in the instant specification. In particular, the mark is disclosed at page 33, lines 22 and 24.) Accordingly, the objection stands.

Applicants further requested that the examiner point out, by page and line, any trademarks disclosed in the specification.

The examiner reminds applicants that it is applicants' responsibility to respond to the objection, not the examiner's. Applicants are also reminded that the MPEP sets out the procedures that the Director of the United States Patent and Trademark Office has determined that examiners should follow. Section 608.01(v) of the MPEP states that "trademarks should be identified by capitalizing each letter of the mark." The MPEP further states that "the proprietary nature of the marks should be respected . . . Every effort should be made to prevent their use in any manner which might adversely affect their validity as trademarks." MPEP 608.01(v), 8th ed., Rev. 2. May 2004, in particular page 600-87.

If applicants do not agree with the objection, they may file a petition under 37 CFR 1.113 to the Director to remove the objection. MPEP, chapter 1000.

However, for this instant application, and not for any future applications that applicants may file, the examiner notes that the following trademarks have been used in the instant specification, where the marks have not been capitalized:

COULTER COUNTER, at page 25, lines 1 and 3; and

LITHOL at page 34, lines 3 and 6.

COULTER COUNTER and LITHOL are registered US trademarks, serial no. 72062272 and 72453659, respectively. See the Trademark Electronic Search System (TESS) printouts of the trademarks COULTER COUNTER and LITHOL, updated on Nov. 13, 2004, listed on the attached form PTO-892.

7. The examiner notes that the following terms recited in the instant claims are defined in the specification:

The quantity "M," the quantity of an element on the surface of the toner particles, recited in instant claims 1 and 2, is defined as " $[(A \times W) / \{(A1 \times W1) + (A2 \times W2) + \dots + (An \times Wn)\}]$," where A represents the amount of the element (atomic % determined using ESCA (XPS)) and W represents the atomic weight of the element; A1, A2, and An represent the amounts of elements detected when the surface portion is analyzed and W1, W2, and Wn represent the atomic weights thereof. Specification, pages 20-21.

The quantity "T," the quantity of the element in the toner composition, recited in instant claims 1 and 2, is defined as " $C \times f$," where C represents the "content" of the charge controlling agent in the toner and f represents the "content" of the specific element in the charge controlling agent. Specification, page 22, lines 22-25.

The spherical degree recited in instant claim 1 is defined as " C_s/C_p " where C_p represents the circumference of a projected image of a particle and C_s represents the circumference of a circle whose area is the same as that of the projected image of the particle. Specification, page 19, lines 6-12.

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. Claim 31 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim contains subject matter which was not described in the specification in such a way as to convey reasonably to one skilled in the relevant art that the inventor(s), at the time

the application was filed, had possession of the claimed invention.

Instant claim 31 recites that the "charge controlling agent is adhered to the toner particles by being externally added to the toner particles."

The originally filed specification does not provide an adequate written description of the charge controlling agent being adhered to the toner particles by being externally added to the toner particles as recited in instant claim 31. Applicants did not specifically indicate, by page and line, where there is antecedent basis for the limitation recited in instant claim 31. Rather, applicants stated that the limitation "as at least inherently supported in the specification." The originally filed specification at page 12, lines 4-5, discloses the step of "mixing the toner particles with a charge controlling agent using a mixer having a rotor to form the toner composition." Applicants in the response filed on Aug. 24, 2004, page 14, state that "[I]n the present invention, the charge controlling agent can be fixed to a surface of spherical toner particles by externally adding the charge controlling agent under specific conditions" (emphasis added). The recitation in claim 31 is broader than the disclosure at page 12, lines 4-5, of the originally filed specification, and

Art Unit: 1756

applicants' "specific conditions" because the recitation includes externally adding the charge controlling agent without the use of a mixer with a rotor or applicants' "specific conditions," such as coating the toner particles by spray coating the particles with a solution comprising the charge controlling agent. See US 6,544,705 B2, col. 10, line 61, to col. 11, line 4.

10. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

11. Claims 1, 5, 6, 9, 29, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese patent 06-348055 (JP'055) combined with US 6,077,635 (Okado). See the Japanese Patent Office (JPO) machine-assisted translation of JP'055 for cites.

JP'055 discloses a toner comprising toner particles that comprise a binder resin, a colorant, and a salicylic acid metal compound as the charge control agent. The salicylic acid metal compound meets the charge control agent limitation recited in instant claim 6. The ratio of the amount (mass%) "A" of the charge control agent existing on the surface of the toner particles to the amount (mass %) "a" of the charge control agent

used in the preparation of the toner is 13.2. The relative amount of the charge control agent present in the toner particles is 1.8 wt%, which is within the range of 0.01 to 2.0% wt recited in instant claim 5. The amount of 1.8 wt% is determined from the information disclosed in paragraphs 0062-0065 of the JPO translation. See the JPO translation, example 1, paragraphs 0062 to 0068. The toner particles are obtained by a suspension polymerization method, which meets the steps in the second method recited in instant claim 9. The toner particles have a weight-average particle size of 8.1 μm . Translation, paragraph 0067.

JP'055 does not explicitly disclose that ratio the A/a is determined by the same method used to measure the ratio M/T as recited in instant claim 1. See paragraph 7, supra. However, the numerical value 13.2 of the ratio A/a is within the numerical range of 10 to 1,000 recited in instant claim 1. JP'055 discloses that the amount of charge control agent existing on the surface of the toner particles was determined by an XPS method, which is the same method used to determined the quantity M. Translation, paragraphs 0033 to 0036. From the disclosure in the JPO translation in paragraphs 0033 and 0034, the mass% of the charge control agent existing on the surface of the toner particles appears to be determined from the "mole"

concentrations measured by XPS of the components on the surface of the toner particles and the molecular weight of the components. Said determination appears to be the same or similar to that used in determining the quantity M recited in instant claim 1. See paragraph 7, supra. Thus, it is reasonable to presume that the charge control agent in JP'055's toner particles is present in the ratio M/T recited in instant claim 1. The burden is on applicants to prove otherwise. In re Fitzgerald, 205 USPQ 594 (CCPA 1980).

JP'055 does not disclose that its toner particles have a sphericity of 0.96 to 0.99 as recited in instant claim 1. Okado discloses a toner comprising toner particles having a circularity of from 0.920 to 0.995, containing particles with a circularity of less than 0.950 in an amount of from 2% by number to 40% by number, and having a weight-average particle size of from 2.0 to 9.0 μm , preferably from 4.0 to 8.0 μm , as measured by a COULTER COUNTER, and a particular external additive. Col. 6, lines 51-64. Okado exemplifies toners having a circularity of 0.983, which is within the range of 0.96 to 0.99 recited in instant claim 1 and the range of 0.975 to 0.985 recited in instant claim 29. See Table 2 at col. 79, example 1. Okado's "circularity" has the same definition as the "spherical degree" recited in instant claim 1. Compare Okado, col. 8,

Art Unit: 1756

lines 40-51, and paragraph 7, supra. The toner weight-average particle size of 8.1 μm of the toner in JP'055's example 1 is within the teachings of Okado.

Okado discloses that if the circularity is less than 0.920, the external additive tends to localize on the toner particle surfaces, resulting in unstable image densities. If the circularity is more than 0.995, the external additive is held on the toner particle surfaces with difficulty, resulting in unstable charging, which leads to fog formation. Col. 8, lines 52-58. Okado discloses that the toner particles can be obtained by a suspension polymerization method. Col. 10, lines 3-23. Okado's suspension polymerization method is the same as or similar to that disclosed by JP'055. Okado teaches that the circularity distribution can be controlled by selecting the type and amount of dispersion stabilizer, agitation power, pH of the aqueous phase and polymerization temperature. Col. 10, lines 24-27.

Okado discloses that toners having Okado's preferred weight-average particle size provide high quality images. Col. 24, lines 33-38. Okado discloses that toners having a weight-average particle size of less than 2 μm have poor transfer efficiency, resulting in the formation of large quantities of residual toner on the photoreceptor, which causes

uneven images and melt-adhesion of the residual toner to the photoreceptor. Toners having a weight-average particle size greater than 9 μm provide lower quality images, for example, images with black spots around line images, and tend to cause melt-adhesion of toner to various members. Col. 24, lines 42-50.

Okado discloses that its toner particles combined with its particular external additive can provide fog-free images with superior image-density stability and minute-image reproducibility, without causing deterioration of the toner "in its long term service." Col. 6, lines 11-14. The external additives include (A) inorganic powder having an average particle size of from 10 μm to 400 μm and a shape factor SF-1 of from 100 to 130, and (B) a non-spherical inorganic powder having a SF-1 of greater than 150. Col. 6, lines 57-64.

It would have been obvious for a person having ordinary skill in the art to adjust, through routine experimentation, the parameters in the suspension polymerization method used to obtain the toner particles in JP'055's example 1 as taught by Okado, such that the resulting toner particles have a circularity that is within the ranges recited in instant claims 1 and 29, and to add Okado's particular external additive to said resultant toner particles, because that person would

have had a reasonable expectation of successfully obtaining a toner having the benefits disclosed by Okado.

Instant claim 31 is written in product-by-process format. JP'055 does not disclose that its charge controlling agent is externally added to toner particles as recited in instant claim 31. However, as discussed above, the toner rendered obvious over the combined teachings of JP'055 and Okado meets the compositional limitations recited in instant claim 1. Accordingly, the toner rendered obvious over the combined teachings of JP'055 and Okado appears to be the same or substantially the same as the toner made by process recited in instant claim 31. The burden is on applicants to prove otherwise. In re Marosi, 218 USPQ 289 (Fed. Cir. 1983); In re Thorpe, 227 USPQ 964 (Fed. Cir. 1985); MPEP 2113.

12. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP'055 combined with Okado as applied to claim 1 above, further combined with US 6,080,519 (Ishiyama) and US 5,547,802 (Kawase). See the JPO translation of JP'055 for cites.

Claim 4 is rejected for the reasons discussed in the office action mailed on May 5, 2004, paragraph 10, which are incorporated herein by reference.

13. Applicants' arguments filed on Aug. 24, 2004, regarding the rejections in paragraphs 11 and 12 above, have been fully considered but they are not persuasive.

Applicants assert that JP'055 does not appreciate the M/T minimum of 10 recited in instant claim 1, nor does the reference disclose the importance of the spherical degree SD recited in instant claim 1. Applicants assert that in Okado, the charge controlling agent is internally added in the toner, and that Okado does not disclose or suggest the charge controlling agent concentration at the surface of the toner particles. Applicants argue that because Okado only teaches a spherical degree because of its effect on its external additives and "JP'055 does not disclose an external additive," "there would be no reason . . . to look at Okado to a non-existent problem in JP'055."

Each of these arguments is without merit. So for the last argument, the reasons for combining the references do not have to those of applicants. As discussed in the rejection in paragraph 11 supra, JP'055 exemplifies a toner having a ratio of "A" to "a" of 13.2, where "A" is the amount (mass%) of the charge control agent existing on the surface of the toner particles and "a" is the amount (mass %) of the charge control agent used in the preparation of the toner. As noted by applicants, JP'055 also exemplifies a toner having a ratio A/a

of 24.93 (example 3). For the reasons discussed in paragraph 11 above, a person having ordinary skill in the art would have reasonably concluded that the charge control agents in the JP'055 toners are present in the ratio M/T recited in instant claim 1. Applicants have not presented any evidence or arguments showing otherwise. The ratio of 13.2 and 24.93 are within the range of 10 to 1,000 recited in instant claim 1. Applicants' first argument regarding the lower limit, 10, of the M/T range, is therefore irrelevant. Accordingly, JP'055 teaches toners having a charge controlling agent on the surface of the toners that satisfy the ratio M/T recited in instant claim 1.

As for applicants' second argument, instant claims 1, 5, 6, 9, and 29 do not limit how the charge control agent is added to the toner. Applicants cannot argue patentability based on limitations that are not present in the claims. Moreover, the recitation in instant claim 31, that the "charge control agent is adhered to the toner particles by being externally added to the toner particles," is a product-by-process limitation. Applicants have not come forward with any evidence showing that the toner rendered obvious over the combined teachings of JP'055 and Okado is not the same or similar to the toner made by the process recited in instant claim 31.

In addition, applicants' statement that "JP'055 does not disclose an external additive" is contradicted by the disclosure in JP'055. The toners exemplified in examples 1 and 3 of JP'055 comprise externally added hydrophobic silica particles. See the JPO translation, paragraph 0069. JP'055 teaches that its toner may comprise externally added fluidity agents, abrasive agents, lubricants, and electrification controllability particles. JPO translation, paragraphs 0051-0055. As discussed in the rejection in paragraph 11 above, Okado teaches toners having a circularity (spherical degree) of 0.983, which is within the spherical degree ranges recited in instant claims 1 and 29, comprising a particular amount of particles having a circularity of less than 0.950, and comprising its particular external additive. As discussed in the rejection in paragraph 11 above, Okado teaches the advantages of using such toners, namely to provide fog-free images with superior image-density stability and minute image reproducibility, without causing deterioration of the toner "in its long term service." Thus, Okado provides motivation, suggestion, and reason to spherically treat the toner disclosed in JP'055 as taught by Okado to obtain a toner having a circularity within the range recited in instant claims 1 and 29, and to add Okado's particular external additive to said resultant toner particles. Accordingly the combined teachings

of JP'055 and Okado render the instantly claimed toner prima facie obvious.

Applicants further assert that the instant specification shows that the instantly claimed toner provides unexpected results over the prior art. Applicants assert that the toner in comparative example 1 of the instant specification, which has a M/T of 8, would be within the teachings of JP'055 when the JP'055 ratio of A/a is 5.

The showing in the instant specification is insufficient to show that the instantly claimed invention yields unexpected results over the prior art.

The showing in the instant specification does not compare to the closest prior art of JP'055. As discussed in the rejection in paragraph 11 above, JP'055 exemplifies a toner having a ratio A/a of 13.2. In addition, as noted by applicants, the toner in JP'055 is obtained by a suspension polymerization method; JP'055 also requires that the toner comprise a wax in a particular surface concentration ratio, B/b, where "B" is the amount (mass%) of wax present on the surface of the toner particles and b is the amount (mass %) of used in the preparation of the toner. JPO translation, paragraph 0013, and example 1 at paragraphs 0062-0069, wherein the ratio B/b is 0.17. As discussed in the rejection in paragraph 11 above,

the suspension polymerization method disclosed by JP'055 meets the steps in the second method recited in instant claim 9. JP'055 discloses that its toners have excellent blocking resistance and fixability, and good electrification properties. JPO translation, paragraph 0008 and example 1, paragraph 0068 and 0071-0072. JP'055 shows that when the toner does not meet the JP'055 ratios A/a and B/b requirements, toner electrification is "dramatically low" and "toner produced blocking." JPO translation, paragraphs 0094-0098, comparative example 1. The ratios of charge controlling agent and wax are therefore critical elements of the JP'055 invention. Comparative examples 1-4 of the instant specification exemplify toners comprising a polyester binder resin. The toner particles in the comparative examples are obtained by a melt-kneading-pulverization method and the charge controlling agent is externally added to the toner particles. The comparative examples also do not disclose that the toners have the wax ratio B/b as taught by JP'055. Furthermore, the toners in comparative examples 2-4 have ratios of M/T of 1158, 55, and 92, respectively, that are outside the JP'055 ratio A/a range of 5 to 50. Thus, comparative examples 1-4 are not probative comparisons to JP'055.

Furthermore, the showing in the instant specification is not commensurate in scope with the instant claims. The toners in examples 1-16 are preferred toners that comprise a charge controlling agent externally added to the toner particles. Compare instant dependent claim 31. The toners in examples 1-14 and 16 comprise a preferred polyester binder resin. Compare instant dependent claims 10 and 11. The toners in examples 3-5, 9, 11, and 13-16 have preferred sphericities in the range of 0.975 to 0.985. Compare instant dependent claim 29. The toners in examples 3-16 have a preferred ratio of M/T in the range of 100 to 800. Compare instant dependent claim 2. The toners in examples 6, 7, 15, and 16 have a preferred charge rising property. Compare instant dependent claim 3. The toners in examples 11, 13, 15, and 16, have preferred volume average particle diameters and preferred ratios of D_v/D_n . Compare instant dependent claim 4. Each of the dependent claims depends directly from claim 1, except for claim 11, which depends from dependent claim 10. Considering the full scope of each claim, none of the examples are commensurate in scope with any of the claims.

Accordingly, given the welter of unconstrained variables, it is not clear whether the instantly claimed toner of claim 1 or a combination of the preferred variables provides the results

reported in the instant specification. Applicants have not satisfied their burden to show that the full scope of the instantly claimed invention provides unexpected results over the prior art. Accordingly, the rejections over the combined teachings of JP'055 and Okado stand.

14. Claims 1, 2, 9, 10, and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Japanese Patent 2000-112180 (JP'180) combined with Okado. See the Japanese Patent Office machine-assisted translation of JP'180 for cites.

JP'180 discloses a toner composition comprising toner particles comprising a polyester binder resin, a colorant, and a charge controlling agent. The toner particles are obtained by a pulverization method. Translation, example 1, paragraphs 0034-0040. The proportion (wt%) "S1" of the atomic element associated with the charge control agent present on the surface of the toner particles is 5.0 times the proportion (wt%) "B1" of the atomic element associated with the charge control agent in the toner particles. Translation, example 1, paragraph 0039, line 4. The amount of S1 was determined using an XPS method in the same manner as the quantity M recited in the instant claims. The amount of B1 is determined in the same manner as T recited in the instant claims. Compare the JPO

translation, paragraphs 0006 and 0009 to 0011, and paragraph 7, supra.

JP'180 does not exemplify a toner having a S1/B1 ratio of 10 to 1,000 as recited in instant claim 1. However, JP'180 teaches that the ratio S1/B1 should be greater than or equal to 4.0, preferably greater than or equal to 5.0 Paragraphs 0006 and 0013. According to JP'180, when the charge control agent is present in the ratio S1/B1 greater than or equal to 4.0, the toner has a high electrification charge and electrification rate, and provides images with good image quality (i.e., "no blur of the solid section is seen at all after a 6000-sheet copy"). Translation, paragraphs 0042, 0048, and 0053, and Table 6, example 1. When the ratio S1/B1 is less than 4.0, the amount of initial electrification is small, and toner provides images of poor image quality (i.e., "a blur in the solid image" is noticed after 6,000 copies). Translation, Table 6, comparative examples 1-3. Thus, the art recognizes the ratio S1/B1 as a result-effective variable, the variation of which is presumably within the skill of the person having ordinary skill in the art.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of JP'180, to adjust, through routine experimentation, the amount of the charge

control agent on the surface of the toner particles in JP'180's example 1, such that the resultant toner has a S1/B1 ratio that is within the ranges of 10 to 1000 or of 100 to 800 recited in instant claims 1 and 2, respectively, because that person would have had a reasonable expectation of successfully obtaining a toner that has a higher electrification charge and electrification rate, and provides images with good image quality.

JP'055 does not disclose that its toner particles have a spherical degree of 0.96 to 0.99 as recited in instant claim 1. Okado discloses a toner comprising toner particles having a circularity of from 0.920 to 0.995, containing particles with a circularity of less than 0.950 in an amount of from 2% by number to 40% by number, and having a weight-average particle size of from 2.0 to 9.0 μm , preferably from 4.0 to 8.0 μm , and a particular external additive. The discussion of Okado in paragraph 11 is incorporated herein by reference. In addition, Okado discloses that toner particles obtained by a pulverization method can be further treated by a hot water bath method, by a hot-air method, or by a mechanical impact method to obtain the circularity disclosed by Okado. Col. 9, lines 3-10.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Okado, to

spherically-treat the toner particles rendered obvious over the teachings of JP'180, such that the resultant toner particles have a circularity within the ranges recited in instant claims 1, 29, and 30; to adjust, through routine experimentation, following the teachings of Okado, the particle size of said resultant toner particles such that said resultant toner particles have a weight-average particle size of 8.0 μm ; and to add Okado's particular external additive to said resultant toner particles, because that person would have had a reasonable expectation of successfully obtaining a toner having the benefits disclosed by Okado.

Instant claim 9 is written in product-by-process format. JP'180 does not disclose that its toner is made by any of the seven processes recited in instant claim 9. However, as discussed above, the toner rendered obvious over the combined teachings of JP'180 and Okado meets the compositional limitations recited in instant claim 1. Accordingly, the toner rendered obvious over the combined teachings of JP'180 and Okado appears to be the same or substantially the same as the toner made by any of the seven processes recited in instant claim 9. The burden is on applicants to prove otherwise. Marosi; Thorpe; MPEP 2113.

Instant claim 31 is written in product-by-process format. JP'180 does not disclose that its charge controlling agent is externally added to toner particles as recited in instant claim 31. However, as discussed above, the toner rendered obvious over the combined teachings of JP'180 and Okado meets the compositional limitations recited in instant claim 1. Accordingly, the toner rendered obvious over the combined teachings of JP'180 and Okado appears to be the same or substantially the same as the toner made by process recited in instant claim 31. The burden is on applicants to prove otherwise. Marosi, supra; Thorpe, supra; MPEP 2113.

15. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP'180 combined with Okado as applied to claim 1 above, further combined with Ishiyama and Kawase. See the JPO translation of JP'180 for cites.

Claim 4 is rejected for the reasons discussed in the office action mailed on May 5, 2004, paragraph 12, which is incorporated herein by reference.

16. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP'180 combined with Okado as applied to

claim 1 above, further combined with US 2001/0010887 A1 (Sawano). See the JPO translation of JP'180 for cites.

Claim 6 is rejected for the reasons discussed in the office action mailed on May 5, 2004, paragraph 13, which is incorporated herein by reference.

17. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP'180 combined with Okada as applied to claim 1 above, further combined with US 5,176,978 (Kumashiro). See the JPO translation of JP'180 for cites.

Claim 7 is rejected for the reasons discussed in the office action mailed on May 5, 2004, paragraph 14, which is incorporated herein by reference.

18. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP'180 combined with Okada as applied to claim 1 above, further combined with US 5,902,709 (Nakayama). See the JPO translation of JP'180 for cites.

Claim 8 is rejected for the reasons discussed in the office action mailed on May 5, 2004, paragraph 15, which is incorporated herein by reference.

19. Applicant's arguments filed on Aug. 24, 2004, regarding the rejections over JP'180 set forth in paragraphs 14-18 above have been fully considered but they are not persuasive. The Thomson translation of JP'180 is used only to rebut applicants' assertion about the teachings in JP'180.

Applicants assert that the ratio of 5 is the only ratio of the amount of charge control agent on the surface to the amount of the charge control agent in the toner greater than 4.0 exemplified in JP'180. Applicants assert that the "JP'180 describes, with regard to a preferred embodiment, that the ratio 'is 5 or more still more preferably 4.5 or more especially preferably' [013]. Clearly, JP'180 provides no motivation to operate at a ratio greater than 5" (emphasis in the original).

However, as discussed in the rejection in paragraph 14 above, and noted by applicants, JP'180 teaches that the ratio $S1/B1$ is greater than or equal to 4.0. where "S1" is wt% of the atomic element associated with the charge control agent present on the surface of the toner particles and "B1" is the wt% of the atomic element associated with the charge control agent in the toner particles. See the JPO translation, paragraph 0004. Contrary to applicants' assertion, JP'180 discloses that "most preferably, $S1/B1$. . . is 4.5 or more, more preferably, it is five or more." See the Thomas translation, paragraph 0013 and

the accompanying Japanese text, which places the value 4.5 before the value 5. The disclosure that the ratio S1/B1 is 4.0 or more, preferably 4.5 or more, and most preferably 5.0 or more, encompasses the ranges of 10 to 1,000 and 100 to 800 recited in instant claims 1 and 2. Moreover, the disclosure of a reference is not limited to its examples, or to its preferred embodiments. A reference is relevant for all that it teaches. See In re Heck, 216 USPQ 1038, 1040 (Fed. Cir. 1983). "In a section 103 inquiry, 'the fact that a specific [embodiment] is taught to be preferred is not controlling, since all disclosures of the prior art, including unpreferred embodiments, must be considered.'" Merck & Co. Inc. v. Biocraft Laboratories Inc., 10 USPQ2d 1843, 1846 (Fed. Cir. 1989) (quoting In re Lamberti, 192 USPQ 278, 280 (CCPA 1976)). Accordingly, the teachings in JP'180 render prima facie obvious the ratio M/T ranges recited in instant claims 1 and 2.

Applicants further assert that toner in JP'180 is made by a pulverization method where the charge control agent is internally added, and the toner is not a spherical toner. Applicants argue that Okado and its deficiencies have been discussed regarding the rejections over JP'055. Applicants assert one skilled in the art would not have combined JP'180 and

Okado for "essentially the same reasons" given for not combining JP'055 and Okado.

However, instant claims 1, 2, 6-10, 29, and 30 do not limit how the charge control agent is added to the toner. Applicants cannot argue patentability based on limitations that are not present in the claims. Furthermore, the recitation in instant claim 31, that the "charge control agent is adhered to the toner particles by being externally added to the toner particles," is a product-by-process limitation. Applicants have not come forward with any evidence showing that the toner rendered obvious over the combined teachings of JP'018 and Okado is not the same or similar to the toner made by the process recited in instant claim 31.

Moreover, applicants' assertion that JP'180 does not disclose an external additive is contradicted by the disclosure in JP'180. The toner exemplified in example 1 of JP'180 comprises externally added hydrophobic silica particles. See the JPO translation, paragraph 0041. JP'180 teaches that "resistance modifiers, such as . . . "silica, alumina, titania . . . lubricant, and a flow improver are further used as an external additive to a toner particle." JPO translation, paragraph 0033. As discussed in the rejection in paragraph 14 above, Okado teaches toners having a circularity (spherical

degree) of 0.983, which is within the spherical degree ranges recited in instant claims 1, 29, and 30, comprising a particular amount of particles having a circularity of less than 0.950, and comprising its particular external additive. As discussed in the rejection in paragraph 14 above, Okado teaches the advantages of using such toners, namely to provide fog-free images with superior image-density stability and minute image reproducibility, without causing deterioration of the toner "in its long term service." Thus, Okado provides motivation, suggestion, and reason to spherically treat the toner disclosed in JP'180 as taught by Okado to obtain a toner having a circularity within the range recited in instant claims 1, 29, and 30, and to add Okado's particular external additive to said resultant toner particles. Accordingly the combined teachings of JP'180 and Okado render the instantly claimed toner prima facie obvious.

Moreover, the showing in the instant specification is insufficient to show that the instantly claimed invention yields unexpected results over the prior art.

The showing in the instant specification is not commensurate in scope with the instant claims. The toners in examples 1-16 are preferred toners that comprise a preferred charge controlling agent, BONTRON E-84 (metal complex of

salicylic acid), preferably externally added to the toner particles. Compare instant dependent claims 6 and 31. The toner in example 16 comprises a preferred polyester binder resin. Compare instant dependent claims 11. The toners in examples 3-5, 9, 11, and 13-16 have preferred sphericities in the range of 0.975 to 0.985. Compare instant dependent claim 29. The toners in examples 3-16 have a preferred ratio of M/T in the range of 100 to 800. Compare instant dependent claim 2. The toners in examples 6, 7, 15, and 16 have a preferred charge rising property. Compare instant dependent claim 3. The toners in examples 11, 13, 15, and 16, have preferred volume average particle diameters and preferred ratios of D_v/D_n . Compare instant dependent claim 4. The toners in examples 8-10, 15, and 16 comprise the preferred charge control agent in a preferred amount. Compare instant dependent claim 5. Each of the dependent claims depends directly from claim 1, except for claim 11, which depends from dependent claim 10. Thus, none of the comparative examples are commensurate with the scope of any of the claims.

Furthermore, examples 1-16 do not show that the lower limit of the ratio M/T of 10 is critical. The toners of the examples have ratios of M/T ranging from 27 to 753.

Accordingly, given the welter of unconstrained variables, it is not clear whether the instantly claimed toner of claim 1 or a combination of the preferred variables provides the results reported in the instant specification. Applicants have not satisfied their burden to show that the full scope of the instantly claimed invention provides unexpected results over the prior art. Accordingly, the rejections over the combined teachings of JP'180 and Okado stand.

20. Claims 1, 2, 9-11, and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP'180 combined with US 6,326,115 B1 (Nakanishi). See the JPO translation of JP'180 for cites.

JP'180 renders obvious a toner as described in paragraph 14 above, which is incorporated herein by reference.

JP'180 does not disclose that its toner has a spherical degree as recited in instant claim 1. Nor does JP'180 exemplify a toner comprising a polyester binder resin as recited in instant claim 11. However, JP'180 does not limit the type of binder resin used. Translation, paragraph 0031.

Nakanishi discloses toners having a Wadell practical sphericity of 0.90 to 1.00, preferably 0.95 to 1.00, more preferably 0.98 to 1.00. The toners comprise a polyester resin

comprising a urea bond. Col. 2, lines 42-46, and col. 3, lines 21-22. Nakanishi exemplifies toners comprising a polyester modified with a urea bond and having a sphericity of 0.96. See example I-3 at cols. 24 to 25. The sphericity of 0.96 is within the range of 0.96 to 0.99 recited in instant claim 1. The sphericity ranges of 0.95 to 1.00 and 0.98 to 1.00 overlap the range of 0.96 to 0.99 recited in instant claim 1 and the values of 0.975 and 0.98 recited in instant claims 29 and 30. The Wadell practical sphericity has the same definition as the "spherical degree" recited in instant claims 1, 29, and 30. Compare Nakanishi, col. 3, lines 14-20, and paragraph 7, supra. The polyester modified with a urea bond meets the binder resin compositional limitation recited in instant claims 10 and 11.

Nakanishi discloses that toner particles obtained by a pulverization method can be further treated by mechanically "globing" said particles using a hydridizer or a mechano-fusion apparatus. Col. 10, lines 51-55. According to Nakanishi, toners comprising its polyester modified with a urea bond and having said sphericity have excellent powder fluidity and superior developing ability and transferability. Col. 2, lines 61-62. The toners have excellent storage stability under

heat and have superior low temperature fixing ability and hot offset resistance. Col. 2, lines 65-67.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Nakanishi, to use Nakanishi's polyester modified with a urea bond as the binder resin in the toner particles rendered obvious over the teachings of JP'180, and to spherically-treat the toner particles, such that the resultant toner particles have a Wadell sphericity that is within the range of 0.96 to 0.99 recited in the instant claims, because that person would have had a reasonable expectation of successfully obtaining a toner having the benefits disclosed by Nakanishi.

Instant claim 9 is written in product-by-process format. JP'180 does not disclose that its toner is made by any of the seven processes recited in instant claim 9. However, as discussed above, the toner rendered obvious over the combined teachings of JP'180 and Nakanishi meets the compositional limitations recited in instant claim 1. Accordingly, the toner rendered obvious over the combined teachings of JP'180 and Nakanishi appears to be the same or substantially the same as the toner made by any of the seven processes recited in instant claim 9. The burden is on applicants to prove otherwise.

Marosi, supra; Thorpe, supra; MPEP 2113.

Instant claim 31 is written in product-by-process format. JP'180 does not disclose that its charge controlling agent is externally added to toner particles as recited in instant claim 31. However, as discussed above, the toner rendered obvious over the combined teachings of JP'180 and Nakanishi meets the compositional limitations recited in instant claim 1. Accordingly, the toner rendered obvious over the combined teachings of JP'180 and Nakanishi appears to be the same or substantially the same as the toner made by process recited in instant claim 31. The burden is on applicants to prove otherwise. Marosi, supra; Thorpe, supra; MPEP 2113.

Applicants' arguments filed on Aug. 24, 2004, have been fully considered but they are not persuasive.

Applicants assert that Nakanishi does not remedy the alleged deficiencies of JP'180 discussed previously. Applicants assert that Nakanishi does not disclose how the charge control agent is distributed in the toner. Applicants further assert that Nakanishi does not appreciate the importance of the combination of both the presently recited spherical degree and M/T limitations, or the superior results obtained thereby.

Applicants' arguments regarding the deficiencies of JP'180 have been addressed in paragraph 19 above. For the reasons discussed in paragraph 19 above, which are incorporated herein

by reference, the teachings in JP'180 render prima facie obvious the ratio M/T ranges recited in instant claims 1 and 2.

Furthermore, the reasons for combining the references do not have to be those of applicants. As discussed in rejection above, Nakanishi teaches the advantages of using toners comprising a urea-bonded polyester resin and having a particular Wadell practical sphericity. In particular, the toners have excellent powder fluidity and superior developing ability and transferability. Thus, Nakanishi provides motivation, suggestion, and reason to use a urea-bonded polyester resin as the binder resin in the toner disclosed in JP'180 and to spherically treat the resultant toner to obtain a toner having the particular Wadell practical sphericity as taught by Nakanishi. Accordingly the combined teachings of JP'180 and Nakanishi render the instantly claimed toner prima facie obvious.

Furthermore, the showing in the instant specification is insufficient to show that the instantly claimed invention yields unexpected results over the prior art for the reasons discussed in paragraph 19 above, which is incorporated herein by reference. Accordingly, the rejection over the combined teachings of JP'180 and Nakanishi stands.

21. Claims 1, 2, 9-11, and 29-31 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-10 of copending Application No. 10/392,894 (Application'894) in view of Nakanishi.

This is a provisional obviousness-type double patenting rejection.

Reference claims 1 and 3 recite a toner composition comprising toner particles comprising a binder resin, a colorant, and a charge control agent particle, where the charge control agent particle is present in a ratio M/T of 20 to 500, where M and T are defined as recited in instant claim 1. See Application'894, paragraphs 0034 and 0036. The ratio M/T of 20 to 500 meets the range of 10 to 1,000 recited in instant claim 1. The upper limit of the ratio, "500," is within the range of 100 to 800 recited instant claim 2, and the ratio M/T of 20 to 500 overlaps the range of 100 to 800 recited in instant claim 2. Reference claim 3 further recites that the toner particles are made by a method that meets the steps of the fourth process recited in instant claim 9, which depends from instant claim 1. Reference claim 6, which depends from reference claims 1 and 3 requires that the binder resin be a

modified polyester resin, which meets the binder resin limitation recited in instant claim 10.

The reference claims do not recite that the toner composition has a spherical degree as recited in the instant claims. Nor do the reference claims recite that the modified polyester resin is a polyester resin comprising a urea bond as recited in instant claim 11. However, reference claim 6, which depends from reference claim 3, requires that the binder resin be a modified polyester resin.

Nakanishi discloses toners having a Wadell practical sphericity of 0.90 to 1.00 and comprising a polyester resin comprising a urea bond as the binder resin. The discussion of Nakanishi in paragraph 20 above is incorporated herein by reference. In addition, Nakanishi discloses that toner particles having said sphericity can be obtained by a dispersion granulation process, where the toner composition is dissolved and dispersed in a solvent, which can dissolve a toner resin binder, and the resulting solution is then dispersed in an aqueous solution to form toner particles. Col. 10, line 61, to col. 11, line 6. The dispersion granulation process disclosed by Nakanishi appears to be the same or substantially the same as process to make toner particles recited in reference claim 3.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Nakanishi, to use Nakanishi's polyester modified with a urea bond as the binder resin in the toner particles recited in the reference claims of Application'894, and to adjust, through routine experimentation, the conditions in the dispersion granulation process used to obtain said toner particles recited in reference claim 3, such that the resulting toner particles have a Wadell sphericity that is within the range of 0.96 to 0.99 recited in instant claim 1, because that person would have had a reasonable expectation of successfully obtaining a toner having the benefits disclosed by Nakanishi.

Instant claim 31 is written in product-by-process format. The claims in Application'894 do not recite that its charge controlling agent is externally added to toner particles as recited in instant claim 31. However, as discussed above, the toner rendered obvious over the subject matter recited in the claims of Application'894 combined with the teachings of Nakanishi meets the compositional limitations recited in instant claim 1. Accordingly, the toner rendered obvious over the subject matter recited in the claims of Application'894 combined with the teachings of Nakanishi appears to be the same or substantially the same as the toner made by process recited in

instant claim 31. The burden is on applicants to prove otherwise. Marosi, supra; Thorpe, supra; MPEP 2113.

22. Claim 4 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-10 of copending Application'894 in view of Nakanishi, further in view of Ishiyama and Kawase.

Claim 4 is rejected for the reasons discussed in the office action mailed on May 5, 2004, paragraph 19, which is incorporated herein by reference.

23. Claim 6 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-10 of copending Application'894 in view of Nakanishi and Sawano.

Claim 6 is rejected for the reasons discussed in the office action mailed on May 5, 2004, paragraph 20

24. Applicants' arguments filed on Aug. 24, 2004, regarding the rejections set forth in paragraphs 21-23 above have been fully considered but they are not persuasive.

Applicants assert that Nakanishi does not disclose how the charge control agent is distributed in the toner. Applicants

further assert that Nakanishi does not appreciate the importance of the spherical degree (SD), "which excludes an SD of about 0.99 while Nakanishi includes Wadell practical sphericities greater than 0.99 which, in Comparative example 4 herein, has been shown to be inferior."

However, the reasons for combining the references do not have to be those of applicants. As discussed in rejection in paragraph 21 above, Nakanishi teaches the advantages of using toners comprising a urea-bonded polyester resin and having a particular Wadell practical sphericity of 0.90 to 1.00, preferably from 0.98 to 1.00. The ranges disclosed by Nakanishi overlap the ranges of 0.96 to 0.99 and 0.975 to 0.985, recited in instant claims 1 and 29, respectively. Nakanishi exemplifies a toner having a Wadell practical sphericity of 0.96, which is within the range recited in instant claim 1. In particular, the toners of Nakanishi have excellent powder fluidity and superior developing ability and transferability. Thus, Nakanishi provides motivation, suggestion, and reason to use a urea-bonded polyester resin as the binder resin in the toner recited in the reference claims of Application'894 and to spherically treat the resultant toner to obtain a toner having the particular Wadell practical sphericity that is within the ranges recited in the instant claims as taught by Nakanishi. Accordingly the subject

matter recited in the claims of Application'894 combined with the teachings of Nakanishi renders the instantly claimed toner prima facie obvious.

In addition, the showing in the instant specification is insufficient to show that the instantly claimed invention yields unexpected results over the prior art. The showing is not commensurate in scope for the reasons discussed in paragraph 19 above, which is incorporate herein by reference. Accordingly, the rejection over the subject matter recited in the claims of Application'894 combined with the teachings of Nakanishi stands.

25. Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record does not teach or suggest a toner having the spherical degree and ratio of the charge control agent M/T recited in instant claim 1 and satisfying the charge relationship recited in instant claim 3. See the discussion of Application'894 regarding the withdrawal of the rejection of claim 3 set forth in paragraph 5, page 4, supra.

26. Applicants' amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicants are reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janis L. Dote whose telephone number is (571) 272-1382. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Mark Huff, can be reached on (571) 272-1385. The central fax phone number is (703) 872-9306.

Any inquiry regarding papers not received regarding this communication or earlier communications should be directed to Supervisory Application Examiner Ms. Claudia Sullivan, whose telephone number is (571) 272-1052.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Application/Control Number: 10/092,920
Art Unit: 1756

Page 45

JLD
Nov. 14, 2004

Janis L. Dote
JANIS L. DOTE
PATENT EXAMINER
GROUP 1800
1700